

# Chapter 7

Police Department

Information Systems Technology Enhancement Project

**ISTEP**

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## Cross-Site Report

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*Prepared for*

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## 1 Overview – Information Systems Technology Enhancement Project (ISTEP)

The Information Systems Technology Enhancement Project, funded by the Office of Community Oriented Policing Services (COPS), is focused on increasing the utilization of information and information technology in police departments in support of community-oriented policing (COP) and problem-oriented policing (POP).

In the initial stages of this project the ISTEP team developed a conceptual framework document. The conceptual framework provided structure for the team in completing phase one of the project, and now assists police departments struggling with information technology (IT) planning in support of community- and problem-oriented policing. The conceptual framework identifies seven key information domains that should be developed if police departments want to implement community policing effectively. The seven domains are: (1) community interface; (2) inter-organizational linkages; (3) work-group facilitation; (4) environmental scanning; (5) problem orientation; (6) area accountability; and (7) strategic management.

The goal of the first phase of ISTEP was to learn about police department accomplishments in community policing, technology development, and the seven information domains. Phase one was also designed to gain an understanding of the internal and external processes involved in implementing information technology in support of community policing. Five police departments – Tempe, Arizona; San Diego, California; Hartford, Connecticut; Reno, Nevada; and Charlotte-Mecklenburg, North Carolina – were selected to participate in phase one of the project. These departments were selected because of their successes and experience relating to information technology and COP/POP implementation.

These departments provided the ISTEP team with open access to their operations and made command and line level staff fully available for interviews, observations, and questions. Several site visits were made to each city to gather information on community policing practices, technology planning and implementation, and assessment of the overall organizational structure. Members of the ISTEP team attended numerous meetings, participated in technology training, conducted ride-alongs, and examined specific hardware and software at each site. Individual case study reports were prepared for each of the participating departments and submitted to the COPS Office.

This phase one cross-site report synthesizes the findings of the individual case studies. It does so by addressing nine specific questions, as a means of helping other departments involved in COP/POP to learn and understand the processes necessary for IT development.

In the second phase of this project, the ISTEP team will work hands-on with a new set of departments that have demonstrated a strong commitment to COP/POP but are in the early stages of IT planning. In phase two, the ISTEP team will profile each site, define both police department and community needs, and work closely with the



departments to develop an information technology design that will support community- and problem-oriented policing. The phase-one assessments will serve as a foundation for phase two.

## **2 Information Technology and COP/POP**

Community- and problem-oriented policing represent ways of providing public safety that are radically different from past practice. Under such models, the police are to be proactive, decentralized, and problem analytic. They are to use information more strategically while solving tactical problems. They are to be in greater communication with the public at large, integrated with other service delivery systems that impact the same geographic area, and internally more reflective and coherent. In sum, police agencies operating within the anticipated norms of COP/POP are to be thinking organizations able to adapt strategies and responses to an ever changing environment.

These new models of police organization and service delivery require significant revisions to thinking and practice regarding the police role, police decision making, and the range of outcomes the police are expected to affect. Among these outcomes are crime, disorder, fear, quality of life, and civic cohesiveness. Today police are being deployed in ways that attempt to preempt problems and create a visible police presence in the community.

Technology will likely play an increasing role in the process of reengineering or redesigning policing systems for community- and problem-oriented policing. The role that technology plays in the refinement of COP and POP strategies, however, is conditioned by many aspects of the organization and environment (internal and external) in which such changes are attempted. Organizational structure, processes, and cultures can either facilitate or hinder the advancement of both technology and COP/POP. Findings from phase-one sites amplify some common issues and concerns that suggest that several key questions about the introduction of technology in furtherance of COP/POP objectives will need to be addressed if these efforts are to be successful. We consider nine core questions that have been gleaned from the individual site analyses.

## **3 Is Technology Driving COP/POP or Is COP/POP Driving Technology?**

Policing systems often find themselves in transition, either leading or following the change. Community- and problem-oriented policing will require that police agencies “act smarter” in the future, in that information about problems, events, and situations will form the basis for designing effective police interventions. Technology alone, however, cannot replace a well designed and departmentally integrated COP or POP strategy. Without a system of COP/POP in place in a department, the acquisition of technology, in any of its manifestations, is a potentially empty experience.

Community- and problem-oriented policing require several fundamental changes within police agencies. These changes include decentralized management and operations; greater interaction with a wide array of client and constituent groups; increased



preparation of police officers in solving problems, handling conflict, and building consensus; and targeted analysis to identify problem concentrations and take affirmative action. Such changes challenge the foundations of American policing – namely, routine preventive patrol, rapid response, and follow-up criminal investigations.

One problem that many police agencies have is defining an organizational framework for COP and POP and then building a technology infrastructure to support that framework. The more likely approach is that the agency defines some fledgling frame of reference for COP/POP and then, in an iterative fashion, builds infrastructure while simultaneously recasting its COP/POP focus. At times COP/POP is driving the discussion of technology, and at other times technology is driving the discussion of COP/POP. Perhaps more importantly, in order to get started along the COP/POP path, police agencies must often move in that direction without consensus or closure as to the meaning of COP/POP for that agency.

In San Diego, COP/POP strategies were firmly in place well in advance of technology development. In fact, some form of COP/POP activity and programs have enjoyed the support of four chiefs in San Diego over a long time frame. This has created a climate of COP/POP in the agency and has allowed these ideas to grow. In many respects, the culture of the San Diego Police Department has been shaped to a great extent by its adoption and visible implementation of COP and POP. In San Diego some form of community-based policing has been in transition for the past 20 years. The department has had a strong commitment to neighborhood policing for many years. Police operations and decision making have been built around the neighborhood policing concept, and the design and implementation of technology in support of these strategies can be seen as a natural progression of the program. Over the years San Diego has been recognized as having one of the most coherent approaches to COP/POP, and the department has had considerable time to adapt to the expectations of the philosophy. This adaptation has included greater citizen input into police policymaking, problem solving using the four-step SARA approach (scanning, analysis, response, and assessment), increased crime analysis, and decentralized police operations.

In contrast to San Diego, COP/POP is a relatively recent phenomenon in Charlotte-Mecklenburg, which has only recently integrated two police agencies (city and county) and begun to move the agency into a community policing frame of reference. In Charlotte, the push-pull relationship of technology and COP/POP is more evident. The Charlotte-Mecklenburg Police Department has shifted focus from technology to COP/POP in an iterative fashion, such that one creates the demand, and later the reinforcement, of the other. While Charlotte is far advanced in its development of technology and other support mechanisms for COP/POP, it is not clear that this new style of policing has fully emerged in the day-to-day operations of the department.

The Reno Police Department has had a longstanding commitment to COP/POP, having implemented some of its first programs over a decade ago. Most would agree, however, that the COP/POP orientation in Reno has become more active in recent years. The department has built its COP/POP program on a generalist model (that is, all police officers are expected to do it), with a geographic focus and local accountability to neighborhood advisory groups. Much of the support for these early efforts came



from the San Diego Police Department. In respect to technology development, however, the Reno Police Department had until recently (within the past two years) relied on an information system that was essentially antiquated and detached from other city agencies. In fact, the Reno Police Department information system was created more than 15 years ago, when community policing was in its infancy, if discussed at all. As a result, this information system is generally believed to be unable to provide usable information to a COP/POP model of decentralized and targeted information needs. Moreover, in Reno the absence of adequate technical support hampers crime analysis, problem-solving information exchange, and integration with other city agencies working on similar or related problems in geographic areas.

In Tempe, Arizona, there has also been a considerable investment in COP/POP. The department has an open style of community interaction and a geographic focus, trains officers in problem solving, and reinforces that training with field training and personnel evaluations. The department can be described as a second-generation agency in that many of the principles of COP and POP are subtly woven into the culture of the department. In Tempe, technology support is housed in the department's Support Services Division and is seen as a tool to enhance neighborhood policing. Currently, Tempe has instituted a centralized IT effort to better integrate information across agencies. In the Tempe Police Department, technology is indirectly tied to COP/POP. The information systems in the department, with the exception of crime analysis, are not directly COP or POP focused.

Community policing has been a part of the Hartford Police Department's overall strategy since 1988, when the community service officer (CSO) unit was formed. CSOs meet regularly with residents and business people to discuss crime problems, work with blockwatch and other citizen groups, and facilitate communication between residents and city government. Over the past four years, community policing has advanced in a number of ways. The Hartford Police Department has aggressively sought out partnerships with other agencies, such as schools, youth organizations, and other criminal justice agencies. The department has increased its neighborhood focus and further decentralized the department around three Police Service Areas (PSAs). It has instituted weekly COMPSTAT (computerized statistics) meetings, which aim to both increase accountability among area supervisors and foster improved communications between commanders in the three PSAs. Finally, in conjunction with Hartford's new Community Court, there is a renewed emphasis in the department on quality of life issues and problem solving.

The Hartford Police Department did not rely on vendors for its computer and information systems. Instead, the department acted as its own consultant and is satisfied with the results obtained, although some in the department are concerned about the level of dependence on the current department programmers for retrieving information from the data systems. Hartford is one of the sites with considerable development in crime mapping, and much of its effort revolves around grants and other support for geographic information systems (GIS) applications and use, both within the department and as a way of sharing information with the community. In this regard, crime mapping is an important component of Hartford's COP and POP IT development.





## 4 Is Technology Planning Integrated with Strategic Planning?

Somewhat related to the drivers of information technology is the linkage between technology planning and overall strategic planning of the police department in question. Strategic planning involves assessing changes in the organization's external environment to better understand threats and opportunities posed for the organization by the environment. Strategic planning also involves taking stock of existing organizational strengths and weaknesses to better assess organizational capabilities and deficiencies. Comparing environmental threats and opportunities with organizational strengths and weaknesses helps to sharpen strategic issues confronting the organization. In turn, the identification of strategic issues leads the organization to develop strategic plans to address those issues, and later to action plans to make strategic emphases operational. The use of more sophisticated technologies is often stated as a strategy for improved linking of organizational capabilities with environmental opportunities.

In many of the police departments studied, strategic planning has become a fact of organizational life. In Charlotte, for example, a strategic plan preceded the development of an information systems and technology planning process. This strategic plan outlined a considerable amount of internal and external research on the Charlotte-Mecklenburg Police Department, its constituents' expectations regarding police service, and its existing capacities to meet those demands. As this department was merging the forces of the Charlotte City Police Department and the Mecklenburg County Police Department, a strategic plan – outlining the merger and, more importantly, how the new Charlotte-Mecklenburg Police Department would be organized and function – was essential to organizational transformation. Strategic planning in Charlotte also spawned the department's information system planning process, which has defined the technological trajectory for the department's future.

In San Diego, IT development and strategic planning are linked. Since the department develops much of its own systems for POP and COP and has considerable expertise in the IT field, there appears to be a reasonable linkage in the planning and analysis functions of the department. The department does struggle at times with the city agency responsible for information technology. These struggles generally revolve around risk taking. The department sees risk taking as necessary to push the envelope on COP and POP and the technology use to support these efforts; conversely, the central IT agency seeks to minimize risk and is concerned that the department may develop systems that will eventually fail, since this has happened in San Diego in the past.

In Reno there was a similar planning process in the creation of one- and five-year strategic plans. The development of an information systems plan has been the responsibility of the city's new Information Services Division, which was created in 1997. With this division, the city of Reno is trying to overcome a considerable obstacle to integrated planning and city service provision that resulted, in part, from a highly fragmented information technology environment. This environment is the legacy of past



decisions that, essentially, did not set information and systems requirements across city agencies. Agencies were on their own to craft whatever system they could. This typically led to heavy reliance on vendors for information and systems design, usually resulting in poor system performance. Lessons learned in Reno suggest that tying information systems development to strategic planning is a necessary component to the effective acquisition and use of technology by the police.

In Tempe, strategic planning is becoming a more dominant organizational activity, in part as a result of shifts in technology development from the department to the city. Information from different agencies is not as well integrated into strategic decision making or planning as it could be. The analytic functions in Tempe appear more operationally focused than strategically focused.

In Hartford, the link between COP/ POP and strategic planning is developing. IT initiatives are discussed in an annual community policing plan. In 1997, for example, the COMPSTAT process was laid out. Hartford currently has substantial experience with two technologies particularly important for community policing – geographic information systems and external information systems. Perhaps the most unique information technology-related feature in the department is their method of sharing information with community-based crime prevention organizations through their Neighborhood Problem Solving (NPS) system. There is variation in equipment and systems in the department, suggesting that, compared to other ISTEP sites, the department is in the early stages of integrating strategic and information systems planning with its strategies of COP and POP.

## **5 Is the Process of Designing and Acquiring Technology “Bottom Up” or “Top Down”?**

In all the sites visited, the introduction of any significant technology required several prior reengineering efforts to better understand the flow of information and decisions and to recast information and communication processes in furtherance of COP/POP. Such efforts require the involvement of many people in the organization in all areas of operations. These efforts generally recognize that both “top down” and “bottom up” approaches have inherent limitations in the final adoption and acceptance of the technology to be used.

The historic experience of most of the agencies studied, when it comes to technology, is not good. Most agencies built their information systems on the advice and counsel of the vendors who were selling them equipment and systems. Internal technical expertise for assessing needs and matching equipment and systems to those needs was essentially nonexistent. Most of the information needs were translated into the design of systems to collect and warehouse reports, not to collect and analyze information that could be used both strategically and tactically. Systems purchased in the past 20 years or so preceded the “information revolution” and have fallen behind in their ability to inform any police function, most particularly one that is community and problem oriented. Police departments typically have received little help from their hosting jurisdictions on these matters. Rather, help has come either in the form of centralized control of this decision-making process, which removed the police (the users of these



systems) from their development, or in the form of “do-what-you-want” approaches, which led the police to become systematically dependent on vendors for information and implementation. Neither of these approaches suited the needs of the police agency, and more often than not these approaches led to the development of some rather dysfunctional information systems in these agencies.

In reaction to these historic problems, the agencies studied have developed several methods to help ensure that their information needs are reflected in the systems they develop. Most have linked their efforts with some form of technological consultant who can advocate for the police department and who understands technological trends and the ways the agency can take advantage of these trends (this topic is discussed in more detail below).

In most of the sites, end users are now more regularly involved in the planning stages of new technology. Overlapping groups, representing rank-in-file as well as supervisory and managerial interests, are a common feature to this approach. In most of the sites this approach is seen as very effective in both highlighting information needs and giving people the chance to “buy in” to community- and problem-oriented policing. In these ways, such committees facilitate technology and cultural change in these agencies. This is an important trend in policing to the extent that it shifts the agency from a command-and-control and policymaking form of management to one that is focused on outputs and outcomes.

## **6 What Is the Level of External Support for These Processes, and What Linkages with Other Information and Intervention Systems Are Present?**

Police COP/POP technology systems do not operate in a vacuum. Rather, the typical experience is for the policing system to be overseen by and/or coordinated with other city or county information systems. For COP/POP to become effective, it needs to be integrated with larger city or county systems that deliver services to the public. Linkages with schools, social welfare, recreation, fire, emergency medical response, and a host of other service agents within any particular jurisdiction is the ultimate goal of COP/POP interventions. If community-oriented policing is meant to mobilize the community, and problem solving is meant to address persistent community crime and disorder problems, then linkage with other agencies and interventions is a central need of police agencies shifting from traditional to COP/POP orientations.

In most of the sites, the integration between the police department and other local or county agency functions is in its infancy; however, there are some interesting developments. In Charlotte, for example, the integration between the city and county governments has paved the way for greater interaction between the police and other agencies. In fact, Charlotte is now conducting analyses of crime patterns and is looking at land use and community and population characteristics as ways to explain and to predict crime and order problems. Charlotte has also taken the lead in linking the police department to other city and county criminal justice functions and in building greater communications in the region on matters of crime and public safety.



In Reno this process is just now emerging. The creation of a more centralized information system in Reno greatly enhances the potential for linking agency information systems. A similar situation exists in Tempe, where historically information systems had been developed within the purview of individual agencies, thereby precluding systems integration, or at least making such integration difficult. In the last year, the city of Tempe has centralized information technology in the hope of integrating information systems and building a citywide data warehouse that could be accessed by many agencies. Such development will likely increase the capacity of the Tempe Police Department to conduct environmental scans and to link service delivery with other city agencies.

In San Diego, there is an ongoing struggle for definition and control of IT between the department and the centralized IT agency. There are considerable linkages in databases that have been created by the central IT agency, and the department is beginning to use those resources in a more analytic way. Land use patterns are being mapped with crime trends in an effort to solve the underlying problems that generate crime in San Diego. In Tempe, the linkage between the police department and other agencies is tenuous, and in Hartford the linkages are programmatic rather than based on shared or linked information.

## **7 What Is the Mix of “In-House” Versus “Out-of-House” Expertise Shaping Technology Planning and Acquisition?**

Building effective communications, computing, and analytic systems within police agencies in support of COP/POP is technically very challenging. In many agencies, internal personnel have learned to use technology over time by taking on informal technology roles or by being assigned to an oversight role and then learning as much and as quickly as possible. In some larger agencies technology specialists exist, as do other technical experts in communications and systems design and integration. Historically, however, this has not been the case.

As a result of limited internal expertise, technology vendors have greatly shaped police department understandings of and access to technology. This, of course, makes the police department in question quite dependent on the vendor for assessing organizational needs, designing systems to meet those needs, and implementing and adjusting systems once acquired.

In Charlotte, the police leadership quickly identified a departmental shortcoming in the area of planning and research, most particularly that associated with technology development. Since Charlotte is home to a large state-supported university, an arrangement was designed wherein local faculty provided assistance for this planning and development process. Such expertise was simply beyond the grasp of the police department at this point in time. Having a local expert greatly enhanced the department's ability to review its technological needs and to design a system (in the form of an RFP) that could be responded to by vendors. In this case, the vendors were responding to the department's vision and needs assessment, not to the vendors' own needs to sell their products. Having such local technological expertise also greatly



assists the department's communications with other IT personnel, while at the same time helping to hold the vendors to a contract and to their deliverables.

In Reno, after several bad experiences with technology and little capacity within the department to articulate technological needs, the department hired an outside consultant. The first consultant, however, was not up to the job and was replaced with another consultant, with whom the department is satisfied. The lesson learned from Reno is that the choice of a consultant to serve as an agent for the department is as important as selection of a vendor.

In San Diego, most development is in-house for the design and creation of RFPs for vendors. The ability to develop the RFPs reflects the high level of expertise and long-standing commitment to technology in the San Diego Police Department. The department works closely with vendors and has the assistance of the city's centralized IT agency. The department believes that it cannot use off-the-shelf systems and applications in furtherance of COP and POP and is therefore required to push systems designers for more sophisticated and responsive equipment and systems. Hartford also developed its primary information systems in-house using civilian programmers. In the future, however, reliance on vendors is likely to increase.

In Tempe, there is ample capacity in the department for planning and implementing information technology and its use. However, given the costs of such systems and the lack of systematic integration among city agencies, the city of Tempe consolidated IT as a central city function. The city is now in the process of building a centralized city information infrastructure and an accompanying city data archive that will serve many agencies. From the perspective of the police, this type of approach appears to be a lower risk endeavor for the department in its planning and acquisition of information technology and systems, but at the same time this arrangement makes the department dependent on others to solve their information problems. There are some committees in the Tempe Police Department to oversee and discuss IT issues. The assignment and location of an IT employee in department headquarters is the foundation of the linkage between the city and the department on matters of systems development and use.

## **8 Who Is Responsible for Integrating Technology with Operations?**

Technology acquisition, implementation, and integration are the essential ingredients for program success. Integration is the linking of organizational processes and function to the new technology, in effect changing the way personnel do business within the new framework set by the technology and other programs. Often technology is acquired without such integration being fully planned or executed. The issue of integrating new technology with systems and operations is problematic for many police agencies. Frequently, those responsible for systems integration have little line experience or oversight, while those responsible for operations have only a marginal linkage with systems planning and implementation.



In San Diego, systems integration is positioned so that both the IT development staff within the police department and neighborhood policing efforts are linked at the top of the organizational hierarchy through a deputy chief who oversees both operations. This was a conscious effort to link COP/POP and IT development so that the two could interact and feed off of one another. Despite the co-location of IT and neighborhood policing, neither has been isolated from patrol and other units of the department.

In Charlotte, there has been a conscious attempt to link the expertise of the external (now internal) technology consultant with the line-command functions within the department. While the civilian consultant was instrumental in developing the plans and driving the process of systems integration and implementation, it is equally important to invest department command in the coordination and implementation of fundamental changes in the agency. While the chief is keenly aware of the planning and systems development efforts, as are the command staff in general, it is also important to specifically fix responsibility for implementation and for linkage with the wider departmental effort to implement COP and POP. The department assigned a senior command officer, a major, to oversee this process and to work directly with the civilian consultant, who has office space in the department and essentially functions as a full-time employee.

In Reno, a committee chaired by a deputy chief now oversees systems acquisition and implementation. This committee has been involved throughout the planning, RFP development, and contract award, and is likely to serve an important role in making sure the acquired systems are rolled out effectively.

In Tempe, responsibility for systems integration falls to Support Services and to a committee overseeing technology development. Given that the city now plays a significant role in acquiring and implementing technology and support systems, it remains to be seen how coordination will develop in the future.

## **9 How Do the New Systems and Processes Affect the Quality and Output of Police Work, and How Would These Changes Be Measured?**

Ultimately, the success or failure of any technology system rests on its ability to improve police decisions and actions so that community problems are addressed and public safety is enhanced. The central theme of any of these developments should be to prevent crime and disorder and reduce the public's fear of crime, rather than respond to these concerns and events after they have occurred. As Charlotte indicated, their focus is on preventing the next crime.

Outcome assessment is perhaps the least explored of all issues that confront IT linkage with COP/POP in the cities studied. Most have little capacity or experience in designing evaluations of their programs and in understanding whether these interventions and efforts achieve measurable results that can be linked to the program. Most of the agencies studied have few ongoing evaluation efforts, since they have been,





understandably, focused on systems implementation. But without systematic formative assessment of the impacts of these efforts, it will be difficult to assess whether COP and POP are, in fact, facilitated by the new technologies being implemented in many of these sites.

## **10 How Does the Process of Assessment Continue?**

Acquiring and implementing technology in support of COP and POP objectives are not discrete processes with a finite end. Rather, such efforts are likely to be continuous, as both the technology itself changes and the police agency's needs and capacity to use technology increases over time. Given the rapid state of research and development regarding telecommunications and computing and analytic systems, building a process for continuous process assessment and improvement is a fundamental need of any agency upgrading technology in support of COP and POP.

This need for an ongoing assessment process is linked, albeit loosely, to the prior assessment. Given the wide array of arrangements and responsibilities in the departments visited, it is difficult to estimate how these agencies will learn from their current experiences and translate that learning to new systems in the future. In San Diego and Charlotte, it appears that such assessment is indeed ongoing. This is not clearly occurring in the other sites studied.

## **11 How Is Such Change Financially Supported?**

Technology is expensive. When a police agency decides to pursue any major form of technology development [e.g., laptops in police cars, the design of a new management information system (MIS) or computer-aided dispatch (CAD) system, or the creation of LAN and WAN infrastructure], the costs are substantial. More importantly, once on a path in technology acquisition and use, departments may find that their "sunken costs" prohibit them from changing course as both their needs and technology change.

Computer, 911, or other information/telecommunications systems are indeed expensive and take years to fully develop, implement, and structure. It is also difficult to organize the thinking aspects of any police agency for a considerable period of time. These "organizational intelligence systems" are complex, often requiring significant external support for their design and implementation. In virtually every site studied, concerns were raised about how much vendors direct and control the process of defining and implementing technology. Absent an internal capacity for better understanding organizational needs and refining RFPs for vendors, police departments can indeed be in a dependent and at times awkward position with respect to technology purchasing and use. Often those who may be charged with technology oversight in the city or county governmental system in which the police department is imbedded may themselves have little understanding of the dynamics and needs of police departments and their constituents.



Most of the agencies studied have had to use funding from a variety of sources to advance their technology objectives. Funding sources include the host jurisdiction, local fundraising, linkage with Federal and State grants, and program development targeted for IT funding from other sources. Given that these efforts typically span several years and involve literally millions of dollars, an assessment of the funding streams for these efforts is warranted.

## **12 Concluding Note: The Uneven Development of Information Domains in Support of COP/POP**

As discussed in the overview (Section 1), in reviewing phase-one departments and the goals associated with ISTEP, we developed a conceptual framework consisting of seven information domains that were considered necessary in technology development supporting community- and problem-oriented policing. In all of the agencies studied, these domains were unevenly developed, if developed at all. For the most part, information for the problem orientation, area accountability, and strategic management domains were the most developed in the agencies studied. The community interface domain was in an intermediate stage of development at most sites, while information associated with inter-organizational linkages, work-group facilitation, and environmental scanning were the least developed in the sites studied.

Interestingly, this pattern of information development can be associated with the focus on COP and POP in each site. Problem orientation, area accountability, and strategic management can be thought of as internally driven information domains – those that police departments are most likely to identify first. Historically, information on crime, calls for service, and the locations of problems have been within the general reach of police agencies. COP and POP have sharpened the use of this information, but much of the information is collected by police agencies on a routine basis. This information serves these three domains (with some augmentation) reasonably well. In recent years, the integration of community concerns into police policy and decision making has also required the police to develop new and improved ways of communicating with their constituents. Information on community interface is a logical path for information growth in police agencies, and it appears that the agencies studied here are indeed moving along that path. Police departments have begun to use computer technology for community interface by creating local and citywide websites that provide information directly to the community. These websites vary in terms of their sophistication, but all are moving in the direction of providing direct access and information about safety, crime, and disorder to the public.

Environmental scanning, work-group facilitation, and inter-organizational linkage are areas of reasonably new information needs for the police. These information needs will require a rethinking of how the agency collects environmental (non-crime) information, works in collective associations with other agencies (including information exchange), and develops a group-think process within the police agency.

In respect to work-group facilitation, most departments still struggle with understanding the problem-solving process and breaking information down so that the system can learn from successful problem solving. Many of the sites visited are now





tracking problem-solving activities in the hope of better understanding the dynamics of the problem-solving process for discrete types of events. At the same time, information about problem solving is being collected to better understand its impacts. All too often, critics of the COP/POP process suggest that such activities are not measured well and that these efforts detract from the department's ability to provide basic services. Tracking problem solving and the work-group process will go a long way in illustrating how problem solving works and what it contributes to community safety. San Diego's POP Track program, and variations on this theme in Reno, Charlotte, and Tempe, underscore the importance of tracking problem solving as a method both for demonstrating how COP/POP works and for providing information across work groups so that problems can be worked on throughout the department.

Information on environmental scanning and interagency linkages relies on many organizations outside of police agencies. Such information is not typically resident within the agency and must therefore either be developed by the police or collected from an existing information system managed by some other agency. In most of the agencies visited, interagency relationships at the tactical level do exist. These take the form of committees that are focused on particular crime types or locations in the city. As these relationships mature and as police agencies develop more user friendly access to their own information, it is anticipated that linkages with other information sets are a likely consequence. Moreover, as cities begin to standardize and/or centralize IT development, such cross-agency information uses are also likely to occur. The San Diego Police Department has perhaps the most elaborate systems for interacting with other agencies and conducting environmental scanning activities. The department's longstanding commitment to COP/POP has permeated much of the local government as well, and the interaction between the police department and outside agencies is high. San Diego serves as a model for such interactions and for linking police and other services to focus on local crime, fear, and disorder problems.



